

REMARKS

This Amendment amends claims 29 and 39 and adds new claims 76-81. Claims 5-12, 16, 19 and 26-81 are pending. Claims 27, 29, 31, 33, 36, 39, 42, 45, 49, 52, 55, 58, 61 and 64 are independent. Claims 49-66 have been withdrawn from consideration.

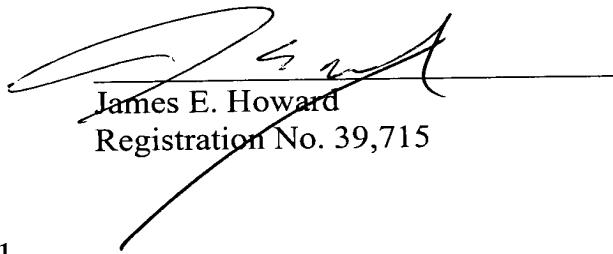
None of the applied references teach or suggest the features of new dependent claims 76-81 including the direction of the crystallization coinciding with a carrier flow direction. The Advisory Action asserts that Oka discloses that grain growth proceeds from the seed regions parallel to the substrate surface and TFT charge carrier flow in Figs. 5-8. However, Oka does not teach or suggest the arrangement of the TFT in light of the relationship between the carrier flow direction and the crystal growth direction as recited in new dependent claims 76-81. Rather, Oka appears to teach arranging the channel region within the region 405 in which the probability of the presence of the crystal grain boundary is practically zero. Applicants respectfully submit that claim 76-81 are allowable over the applied references.

Support for new claims 76-81, may be found in the specification at, for example, page 11, line 28 through page 12, line 7.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the application is in condition for allowance. Prompt reconsideration and allowance are earnestly solicited.

Should the Examiner believe that anything further is desirable in order to place the application into condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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Enclosure: Version with markings to show changes made

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29. (Amended) A method of manufacturing a semiconductor device used for an active matrix type electro-optical display, comprising the steps of:

forming a semiconductor film to be crystallized over a substrate, said semiconductor film having a first region [an] and a second region;

disposing a metal catalyst in contact with a selected region of only the first region of the semiconductor film, said catalyst being capable of promoting crystallization of said semiconductor film;

heating said semiconductor film so that crystallization of said semiconductor film occurs only in the first region thereof while the semiconductor film in said second region is not crystallized, wherein said crystallization proceeds in a direction parallel to a major surface of said substrate from said selected region with diffusion of said metal catalyst through the semiconductor film, thereby forming crystals of said semiconductor film in said first region extending parallel with the major surface of the substrate; and

after the crystallization of said semiconductor film, forming a first thin film transistor by using [said crystals] the first region of the semiconductor film and a second thin film transistor by using the second region of the semiconductor film,

wherein a concentration of said metal in said first region is 1×10^{19} atoms/cm³ or lower, and

wherein the first thin film transistor is so arranged that said crystals extend along with a direction in which carriers of said first transistor flow.

39. (Amended) A method of manufacturing a semiconductor device for an active matrix type electro-optical display having a driving circuit portion and a display portion comprising the steps of:

forming a semiconductor film to be crystallized over a substrate, said semiconductor film having a first region on said driving circuit portion and a second region on said display portion;

disposing a metal in contact with a selected region of only the first region of the semiconductor film, said metal being capable of promoting crystallization of said semiconductor film;

heating said semiconductor film so that crystallization of said semiconductor film occurs only in the first region thereof while the semiconductor film in said second region is not crystallized, wherein said crystallization proceeds in a direction parallel to a major surface of said substrate from said selected region with diffusion of said metal through the semiconductor film, thereby forming crystals of said semiconductor film in said first region extending parallel with the major surface of the substrate; and

after the crystallization of said semiconductor film, forming a first thin film transistor by using [said crystals] the first region of the semiconductor film and a second thin film transistor by using the second region of the semiconductor film,

wherein a concentration of said metal in said first region is 1×10^{19} atoms/cm³ or lower, and

wherein said first thin film transistor is so arranged that said crystals extend along with a direction in which carriers of said first transistor flow.